Overview of S.L. 2017-192 Competitive Energy Solutions for North Carolina

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Process and Development

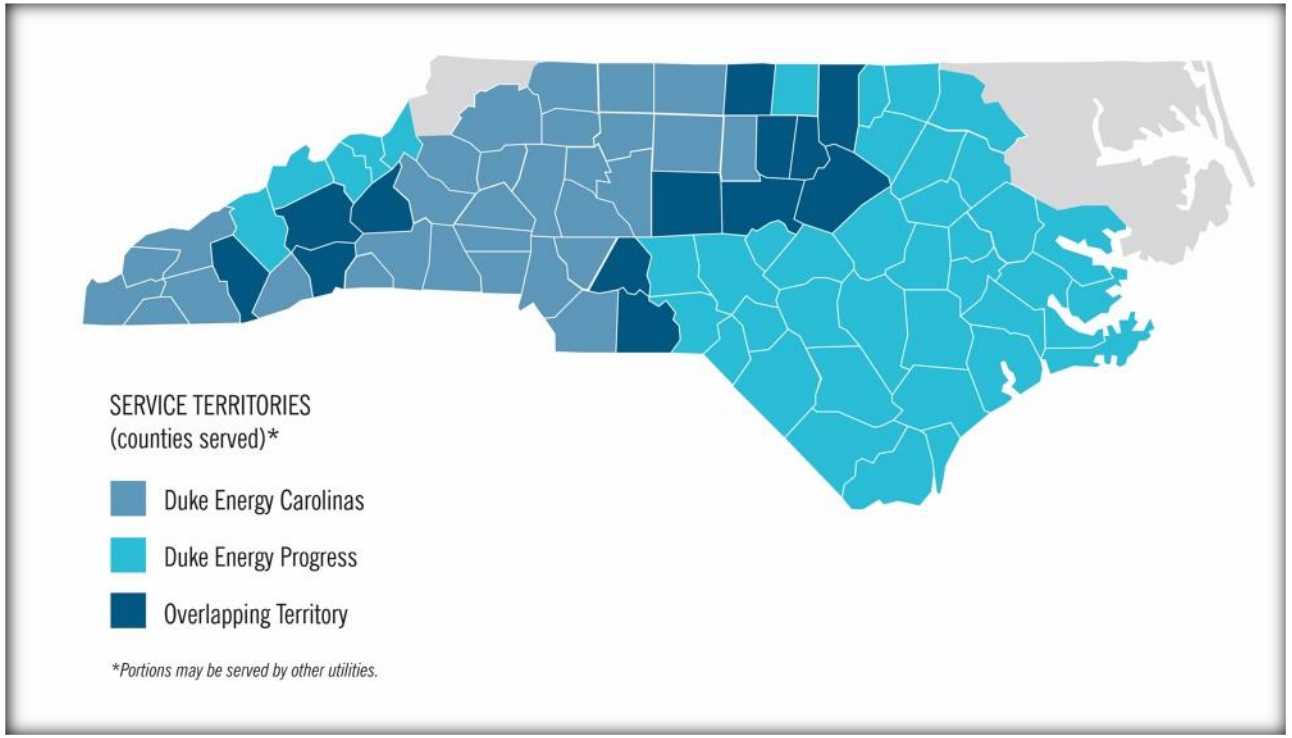
- Product of extensive stakeholder process involving:
  - Legislators
  - Legislative staff
  - Utilities Commission
  - Public Staff
  - Utilities
  - Renewable energy industry representatives
  - Environmental interests

Key Elements of Legislation

- Reform of the State's implementation of the Public Utilities Regulatory Policy Act of 1978 (PURPA)
- Enactment of the Distributed Resources Access Act
- Green Source Rider Program (renewable energy procurement for major military installations, public universities, and other large customers)
- Solar Rebate Program

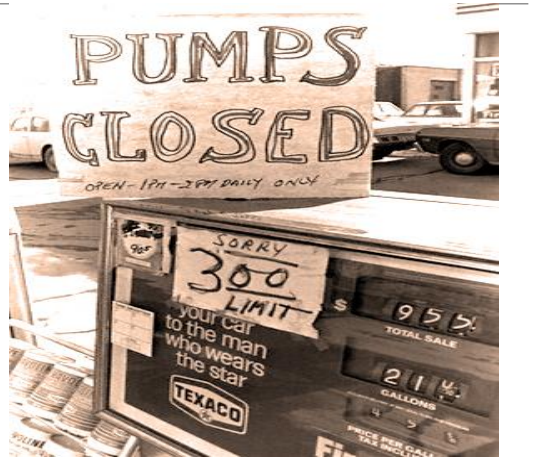
Parts I and II
Standard Contracts for Small Power Producers and Competitive Procurement of Renewable Energy

Transitions the State's utility-scale solar development model, driven historically by the Public Utility Regulatory Policies Act of 1978 (PURPA), to competitive procurement in the Duke Energy Carolinas LLC (Duke) and Duke Energy Progress LLC (Progress) service territories.



PURPA

PURPA and Qualifying Facilities: PURPA was enacted by Congress as part of a package of energy legislation to combat the 'energy crisis' of the late 1970s to reduce dependence on foreign oil and promote renewable energy. Pursuant to PURPA and federal regulations, utilities are required to buy energy generated by “qualifying facilities” (QF) at the utility’s “avoided cost.”



PURPA Implementation in NC

The Federal Energy Regulatory Commission (FERC) delegated PURPA implementation authority to the states.

The North Carolina Utilities Commission (Commission) was given jurisdiction to set standards for QFs including the avoided cost calculation and the terms and conditions of contracts and capacity thresholds for those facilities.

NC's "Pre-589" PURPA terms relative to other states

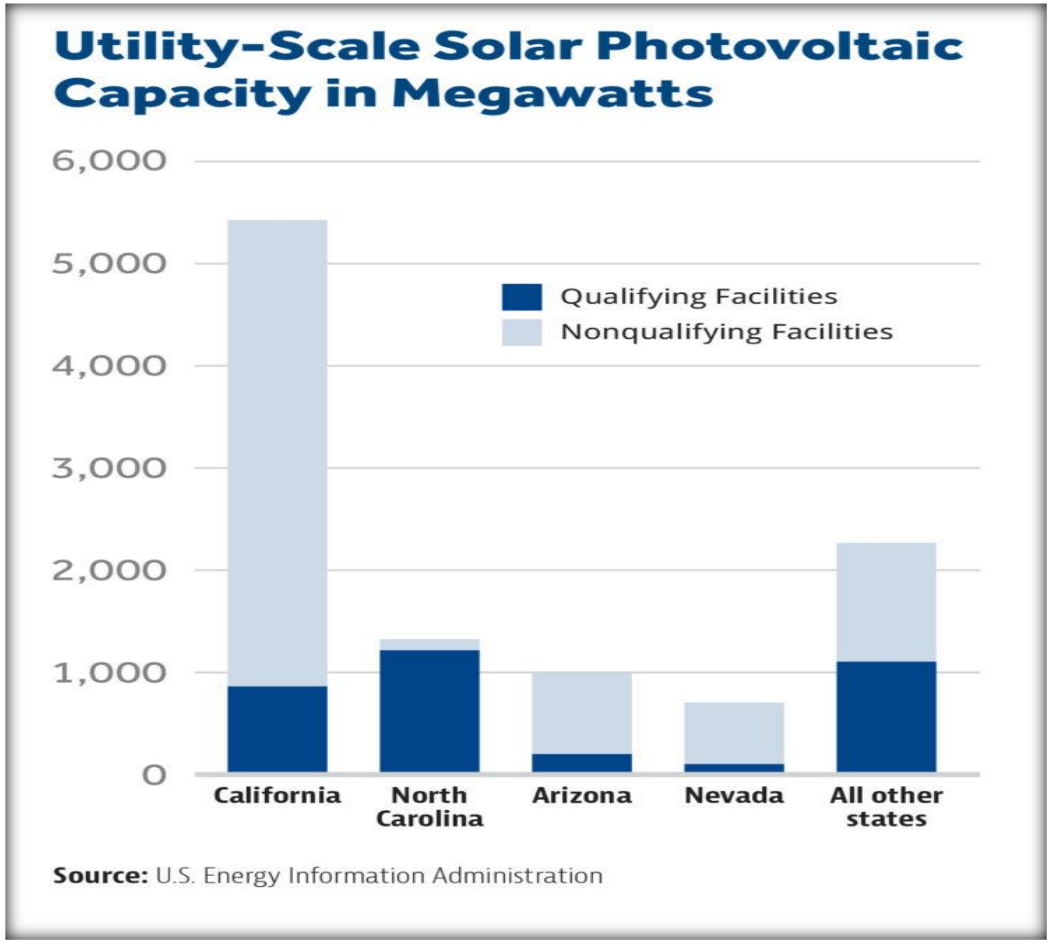
PURPA Terms in Southeastern US States

State	*Pay Rate*	*Maximum Contract Term*	*Fixed or Variable Rates*	*Size Limits*	*REPS Mandate*
North Carolina	Duke Energy Carolinas = $56.20 per MWh; Duke Energy Progress = $55.30 per MWh	15 years	Fixed	5 MWs	Yes — 12.5% by 2021
South Carolina	Duke Energy Carolinas = $51.20 per MWh; Duke Energy Progress = $45.96 per MWh	10 years	Fixed	2 MWs	No
Georgia	Solar avoided cost rate = $40.10	5 years	Fixed	100 kWs	No
Mississippi	Highest on-peak rate = $36.20 July–October	5 years	Fixed	100 kWs	No
Alabama	All schedule rates < $40 per MWH	> =1 year	Variable, updated annually	100 kWs	No
West Virginia	Peak = $34.30 per MWh; off-peak = $22.20 per MWh	> =1 year	Variable, subject to revisions	100 kWs	No
Kentucky	<=100 kWs = $30.78 per MWh; >100 kWs = PJM Interconnection location marginal price	No standard term	Variable	20 MWs	No
Florida	Actual avoided cost ex-post 2015 average was ~$26/MWh	Annual renewal	Variable	80 MWs	No
Virginia	Based on the PJM Interconnection location marginal price	> =1 year	Variable	20 MWs	No
Tennessee	All schedule rates < $30 per MWH	> =1 year	Variable, updated annually	100 MWs	No
Maryland	PJM Interconnection location marginal price	No standard term	Variable	100 kWs	Yes — 20% by 2022
Louisiana	Based on Midcontinent Independent System Operator (MISO) location marginal price	Negotiated term	Variable	20 MWs	No
Arkansas	Based on Midcontinent Independent System Operator (MISO) location marginal price	>100 kWs minimum 5 years	Variable	20 MWs	No

Source: Kendal Bowman, Duke Energy Carolinas, presentation before the North Carolina House Energy and Public Utilities Committee, 3/8/17

NC had longest fixed rate contract term of 15 years among these states

North Carolina PURPA-qualifying solar facilities relative to other states



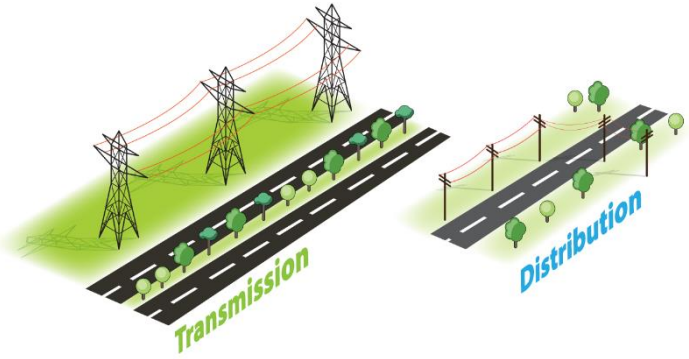
60% of US PURPA projects in NC

North Carolina #2 among states for installed solar capacity

Part I – Standard Contracts for Small Power Producers

- Lowered the threshold for eligibility for standard offer contracts for QFs under PURPA to projects of 1 MW or less, from the previous 5 MW.

- Shortened the length of standard offer QF contracts to 10 years from 15 years.*



Part II
Competitive Procurement of Renewable Energy

Establishes a competitive procurement process for larger new renewable energy facilities that requires electric public utilities with more than 150,000 customers to issue a request for proposals (RFP) for a total of 2,660 MW of capacity from renewable energy facilities over a 45-month term.

- Pro forma contract, with a term of 20 years (subject to adjustment by the Commission).
- Cost of energy procured capped at the forecasted avoided cost for the term of the agreement.
- Bidding process overseen by an independent administrator.

Existing and Transitional Solar Capacity in North Carolina	
Connected	1,800 MW
Under Construction	700 MW
Transition	1,000 MW
Sub-Total	**3,500 MW**

Competitive Procurement*	
2018	665 MW
2019	665 MW
2020	665 MW
2021	665 MW
Sub-Total	**2,660 MW**

Part III
Renewable Energy Procurement for Major Military Installations, Public Universities, and Other Large Customers (Green Source Rider Program)

Establishes a new renewable energy procurement program for large energy users, the military, and the University of North Carolina system -- much like the now-expired “Green Source Rider” (GSR) program initiated in 2013 – that allows them the option of offsetting some or all of their energy consumption with renewable energy resources in the Duke Energy Carolinas service territory.

Part IV
Cost Recovery for Certain Small Power Producer Purchases

Allows each public utility to recover the cost of power purchased from PURPA QFs, and the non-administrative costs of the Green Source Rider program, through the utility's existing Fuel Clause Rider.

Part VI – Distributed Resources Access Act (Third Party Financing and Net Metering)

- Electric public utilities in North Carolina have the exclusive rights to sell electricity to consumers in a designated franchise area.

- Prior to S.L. 2017-192, utility customers could own renewable energy systems for their own use and were compensated via bill credits at a net metering rate established by the Commission.

Part VI – Distributed Resources Access Act (Third Party Financing and Net Metering)

Section 6.(a) allows third parties to offer leasing of solar energy facilities in the service area of an "offering utility" or municipality that offers electric service, and requires offering utilities to implement community solar programs.

Part VI – Distributed Resources Access Act (Third Party Financing and Net Metering)

- Under **Section 6.(a)**, the offering utility's retail electric customers may contract with solar developers or the utility for the lease of eligible solar facilities.
- The facility must meet several requirements:
  - Solar PV system.
  - Capacity limitations, and must not be intended to offset more than 100% of the customer's consumption.
  - Interconnect with the utility.
  - Safety, performance, reliability standards.

Part VI – Distributed Resources Access Act (Third Party Financing and Net Metering)

- **Net Metering** – A billing arrangement between the customer and the utility wherein the customer receives credit for excess renewable energy delivered to the grid.

Part VI – Distributed Resources Access Act (Third Party Financing and Net Metering)

- **Section 6.(a)** directed offering utilities to file a docket with the Commission for revised new net metering rates.

- Existing retail customers who owned a renewable energy system were grandfathered.

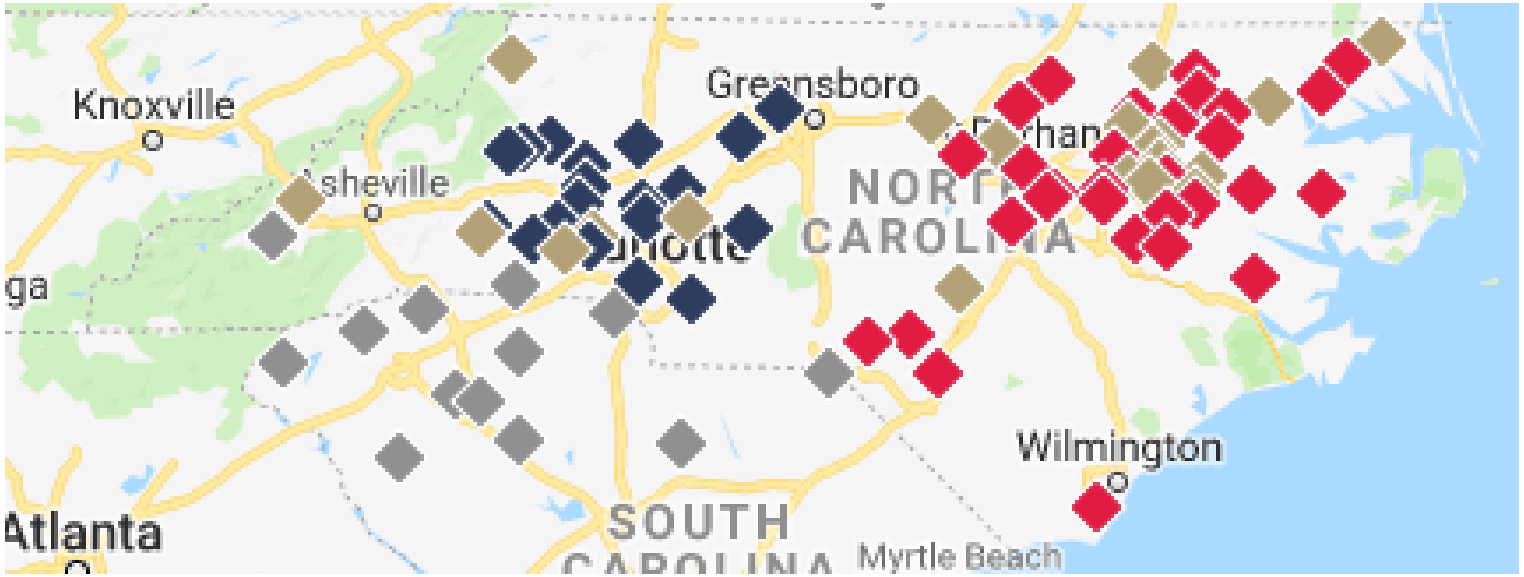
Part VI – Distributed Resources Access Act (Third Party Financing and Net Metering)

- **Community Solar** (**Section 6.(a)**)

Required offering utilities to develop a community solar program to allow customers to buy subscriptions for a certain amount of electricity produced by the solar energy facility.

Part VI – Distributed Resources Access Act (Third Party Financing and Net Metering)

- **Municipal Solar Leasing** (**Section 6.(a)**) **–** A municipality that sells electric power may offer leases to solar energy facilities in the municipality's service territory.



Part VII – Expedited Review of Interconnection of Swine & Poultry Waste

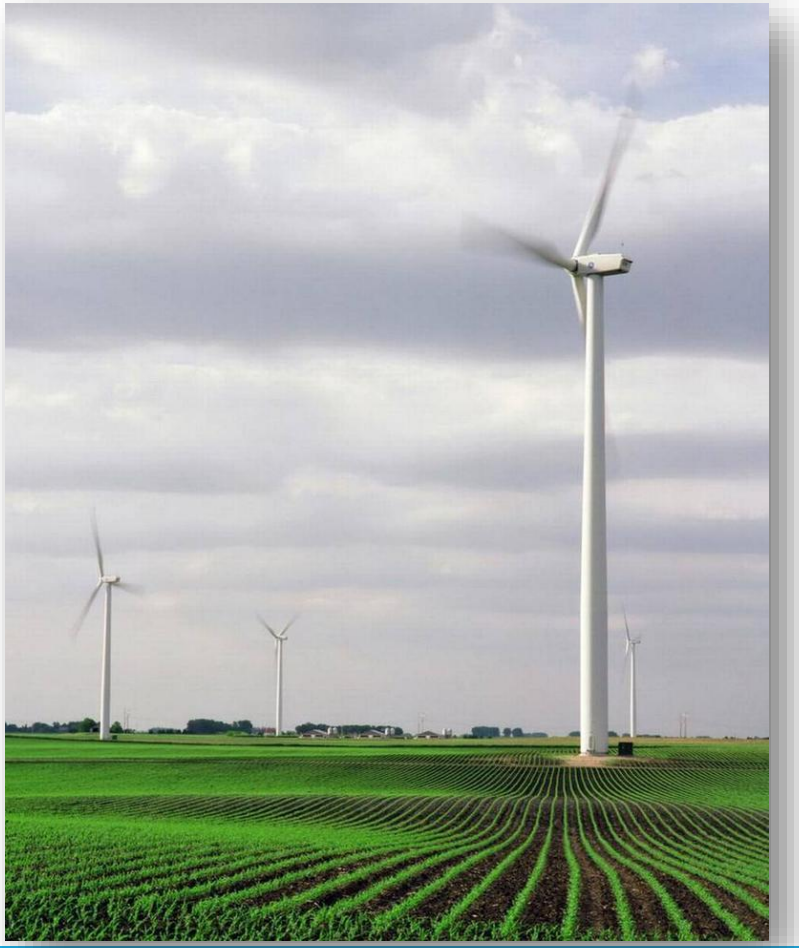
- **Section 7** directed the Commission to establish interconnection standards that include an expedited review process for small swine and poultry waste to energy projects.

Part VIII – Solar Rebate Program

- **Section 8.(a)** created a rebate program applicable to small residential and commercial solar installations, to provide incentives to customers that install or lease solar energy facilities and are subject to the utility's net metering tariff.
- **Section 8.(b)** allowed the utilities to recover the cost of the rebate program.

Part XIII – Moratorium on Permits for Wind Energy Facilities

- **Section 13** established a moratorium on the consideration of applications and the issuance of permits for wind energy facilities and wind energy expansions in the State from January 1, 2017 to December 31, 2018. The moratorium has now expired.



Part XIII – Moratorium on Permits for Wind Energy Facilities

- **Section 13** also directed the General Assembly to study the extent and scope of military operations in the State to identify areas where wind energy infrastructure and development poses a threat to or encroaches upon military uses.
- The study, conducted by AECOM, was submitted to the Legislative Services Officer in May of 2018.

Questions?